

11-183

## OCD Artesia

Form 3160-3  
(April 2004)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 20075. Lease Serial No.  
NMNM-0074936  
6. If Indian, Allottee or Tribe Name1a. Type of work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone8. Lease Name and Well No.  
BIRDIE FEDERAL #017 <308707>2. Name of Operator  
APACHE CORPORATION <873>9. API Well No.  
30-015- 392213a. Address 303 VETERNAS AIRPARK LN #3000  
MIDLAND, TX 797053b. Phone No. (include area code)  
432-818-116710. Field and Pool, or Exploratory  
LOCO HILLS; GLORIETA-YESO <96718>4. Location of Well (Report location clearly and in accordance with any State requirements \*)  
At surface 2435' FNL & 1055' FEL (H) UNORTHODOX  
At proposed prod. zone SAME LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area

UL: H SEC: 17 T17S R30E

14. Distance in miles and direction from nearest town or post office\*  
APPROX 5 MILES SOUTHWEST OF LOCO HILLS, NM12. County or Parish  
EDDY13. State  
NM15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any)  
1055'16. No. of acres in lease  
28017. Spacing Unit dedicated to this well  
40 ACRES18. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft.  
360' +/-19. Proposed Depth  
6500'20. BLM/BIA Bond No. on file  
BLM - CO - 1463 NATIONWIDE21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
3677'22. Approximate date work will start\*  
03/31/201123. Estimated duration  
14 DAYS

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Name (Printed/Typed)

SORINA L FLORES

Date

03/22/2011

Title

DRILLING TECH

Approved by (Signature)

Name (Printed/Typed)

CARLSBAD FIELD OFFICE

Date

JUL - 6 2011

Title

FIELD MANAGER

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on page 2)

\*  
OCD CONDITION OF APPROVAL of Drilling  
Intent to drill ONLY --- CANNOT produce until the Non-Standard  
Location has been approved by OCD Santa Fe office\*  
APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHEDSEE ATTACHED FOR  
CONDITIONS OF APPROVAL

ROSWELL CONTROLLED WATER BASIN

# DRILLING PLAN: BLM COMPLIANCE

(Supplement to BLM 3160-3)

## APACHE CORPORATION (OGRID: 873) BIRDIE FEDERAL #17

Lease #: NMNM-0074936 Projected TD: 6500' GL: 3677'  
2435' FNL & 1055' FEL, UL: H SEC: 17 T17S R30E EDDY COUNTY, NM

- GEOLOGIC NAME OF SURFACE FORMATION:** Quaternary Aeolian Deposits
- ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:**

| FORMATION              | WELL DEPTH | WATER/OIL/GAS |
|------------------------|------------|---------------|
| Quaternary Aeolian     | Surf       |               |
| Rustler                | 250'       |               |
| Salt Top               | 550'       |               |
| Salt Bottom            | 1010'      |               |
| Yates                  | 1173'      |               |
| Seven Rivers           | 1466'      | Oil           |
| Queen                  | 2077'      | Oil           |
| Grayburg               | 2465'      | Oil           |
| San Andres             | 2765'      | Oil           |
| Glorieta               | 4206'      |               |
| Yeso                   | 4290'      | Oil           |
| Blaine                 | 4755'      |               |
| Tubb                   | 5725'      |               |
| TD                     | 6500'      |               |
| Depth to Ground Water: | 91'        |               |

All fresh water & prospectively valuable minerals, as described by BLM, encountered during drilling, will be recorded by depth and adequately protected. All oil & gas shows within zones of correlative rights will be tested to determine commercial potential. The surface fresh water sands will be protected by setting 13-3/8" csg @ 275' & circ cmt back to surface. All intervals will be isolated by setting 5-1/2" csg to TD & circ cmt above the base of 8-5/8" csg

- CASING PROGRAM:** All casing is new & API approved

| HOLE SIZE | DEPTH            | OD CSG  | WEIGHT | COLLAR | GRADE | COLLAPSE | BURST | TENSION |
|-----------|------------------|---------|--------|--------|-------|----------|-------|---------|
| 17-1/2"   | 0' - 275' 3-5    | 13-3/8" | 48#    | STC    | H-40  | 1.125    | 1.0   | 1.8     |
| 11"       | 275' - 1200' 113 | 8-5/8"  | 24#    | STC    | J-55  | 1.125    | 1.0   | 1.8     |
| 7-7/8"    | 1200' - 6500'    | 5-1/2"  | 17#    | LTC    | J-55  | 1.125    | 1.0   | 1.8     |

- CEMENT PROGRAM:**

- 13-3/8" Surface:** Run & set 13-3/8" 48# H-40 STC csg to 275'. Cmt with:

Lead: 310 sx Class C w/ 1% CaCl<sub>2</sub>, 0.25% R38 (14.8 wt, 1.34 yld)

Compressive Strengths: 12 hr - 813 psi 24 hr - 1205 psi \*\*\*100% excess cmt; cmt to surf\*\*\*

- 8-5/8" Intermediate:** Run & set 8-5/8" 24# J-55 STC csg to 1200'. Cmt with:

Lead: 130 sx (50:50) Poz C w/ 4% Bentonite, 1% CaCl<sub>2</sub>, 0.25% R38 (12wt, 2.3 yld)

Compressive Strengths: 12 hr - 589 psi 24 hr - 947 psi

Tail: 160 sx Class C w/ 1% CaCl<sub>2</sub>, 0.25% R38 (14.8 wt, 1.34 yld)

Compressive Strengths: 12 hr - 813 psi 24 hr - 1205 psi \*\*\*100% excess cmt; cmt to surf\*\*\*

- 5-1/2" Production:** Run & set 5-1/2" 17# J-55 LTC csg to 6500' 6500' (DV or Post tool w/ be set at @ 3500' if DV or Post is to be moved cement will be adjusted proportionately / TOC: 500') Cmt with:

1<sup>st</sup> Stage Lead: 530 sx (50:50) Poz C w/ 0.3% C12, 5% Salt, 0.25% R38 (14.2 wt, 1.26 yld)

Compressive Strengths: 12 hr - 1379 psi 24 hr - 2332 psi

2<sup>nd</sup> Stage Lead: 280 sx (50:50) Poz C w/ 5% Salt, 0.25% R38 (11.8 wt, 2.45 yld)

Compressive Strengths: 12 hr - 540 psi 24 hr - 866 psi

2<sup>nd</sup> Stage Tail: 90 sx (50:50) Poz C w/ 5% Salt, 0.25% R38 (14.2 wt, 1.28 yld)

Compressive Strengths: 12 hr - 1031 psi 24 hr - 1876 psi \*\*\*30% excess cmt\*\*\*

See COA  
\*\* The above cmt volumes could be revised pending caliper measurement from open hole logs. For Surface csg: If cmt does not circ to surface, the appropriate BLM office shall be notified & a tag with 1" will be performed at four positions 90 degrees apart to verify cmt depth. If depth is greater than 100' or water is standing in the annulus, remedial cementing will be done. If no water & TOC tag is less than 100', when 100% excess cmt of the annulus volume is run on the primary job, ready-mix will be used to bring cmt to surface.

## 5. PROPOSED CONTROL EQUIPMENT

Exhibit "1" shows an 11" 3M psi WP BOP consisting of an annular bag type preventer, middle blind rams, bottom pipe rams. The BOP will be nipped up on the 13-3/8" surface csg and tested to 70% of casing burst. After the intermediate casing is set & cemented the 13 3/8" casing head will be removed and a 11" 3M head will be installed on the 8 5/8" casing and utilized continuously until total depth is reached. The BOP will be tested at 2000 psi, maximum surface pressure is not expected to exceed 2M psi, BHP is calculated to be approximately 2860 psi. \*All BOP's and associated equipment will be tested as per BLM Drilling Operations Order #2. The BOP will be operated and checked each 24 hr period & the blind rams will be operated & checked when the drill pipe is out of the hole. Functional tests will be documented on the daily driller's log. Exhibit "1" also shows a 3M psi choke manifold with a 3" blow down line. Full opening stabbing valve & Kelly cock will be on derrick floor in case of need. No abnormal pressures of temperatures are expected in this well. No nearby wells have encountered any problems.

## 6. PROPOSED MUD CIRCULATION SYSTEM: (Closed Loop System)

| INTERVAL                       | MW (ppg)   | VISC (sec/qt) | FLUID LOSS (cc) | MUD TYPE    |
|--------------------------------|------------|---------------|-----------------|-------------|
| 0' - <del>275'</del> 345'      | 8.4        | 29            | NC              | Fresh Water |
| <del>275'</del> to 1200' 1130' | 9.8 - 10.0 | 29            | NC              | Brine       |
| 1200' - 6500'                  | 8.9 - 9.0  | 29            | NC              | Cut Brine   |

\*\* The necessary mud products for weight addition and fluid loss control will be on location at all times. In order to run open hole logs & casing, the above mud properties may have to be altered to meet these needs.

## 7. AUXILIARY WELL CONTROL EQUIPMENT / MONITORING EQUIPMENT:

- 11" x 3000 psi Double BOP/Blind & pipe ram (2M BOP if available)
- 4-1/2" x 3000 psi Kelly valve
- 11" x 3000 psi mud cross - H2S detector on-production hole
- Gate-type safety valve 3" choke line from BOP to manifold
- 2" adjustable chokes - 3" blow down line

## 8. LOGGING, CORING & TESTING PROGRAM: See COA

- A. OH logs: Dual Laterolog, MSFL, CNL, Litho-Density, Gamma Ray, Caliper & Sonic from TD back to 8-5/8" csg shoe.
- B. Run CNL, Gamma Ray from 8-5/8" csg shoe back to surface.
- C. No cores, DST's or mud logger are planned at this time.
- D. Additional testing will be initiated subsequent to setting the 5-1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows & drill stem tests.

## 9. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered, however, the proposed mud program will be modified to increase the mud-weight. There is no known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S is encountered the operator will comply with the provisions of Onshore Oil & Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP: 2860 psi and estimated BHT: 115°.

## 10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

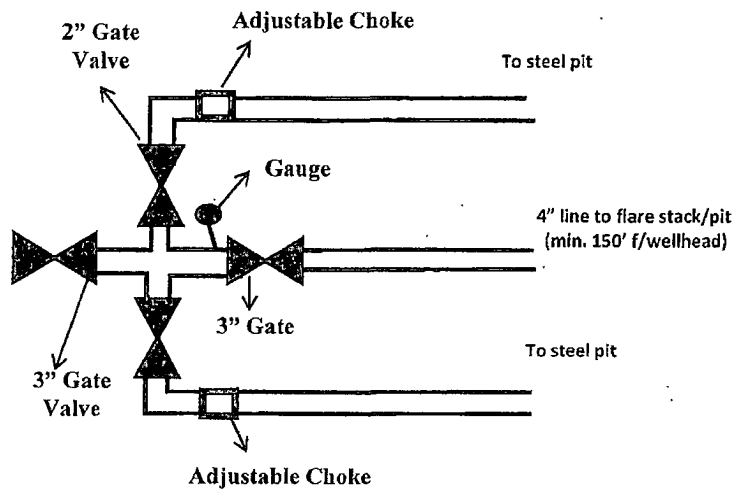
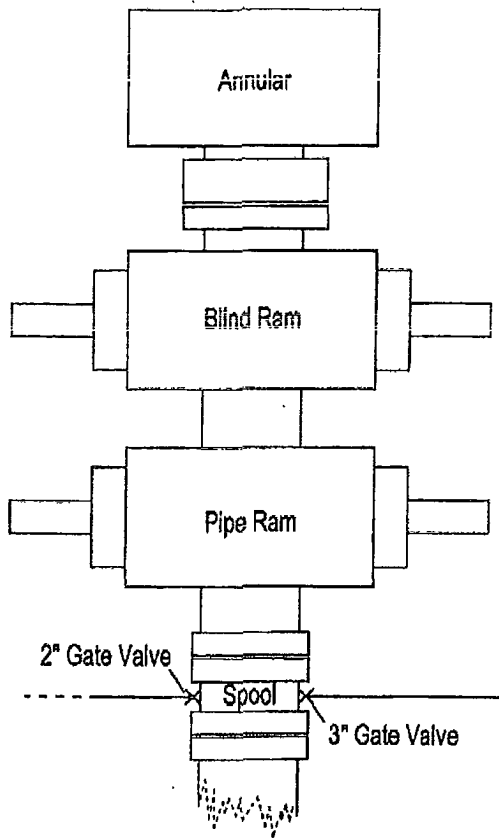
Road and location construction will begin after Santa Fe & BLM has approved APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as rig will be available. Move in operations and drilling is expected to take 14 days. If production casing is run then an additional 90 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

## 11. OTHER FACETS OF OPERATION:

After running csg, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Loco Hills; Glorieta-Yeso formation will be perforated and stimulated in order to establish production. The well will be swab tested & potentialized as an oil well.

### 3M psi BOPE & Choke Manifold

All valve & lines on choke manifold are 2" unless noted.  
Exact manifold configuration may vary



DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

308707 Operator APACHE CORP OGRID # 873  
 Well Name & # BIRDIE FEDERAL #17 Surface Type (F) (S) (P)  
 Location: UL H, Sect 17, Township 17 s, RNG 30 e, Sub-surface Type (F) (S) (P)

A. Date C101 rec'd 7/22/11 C101 reviewed 7/22/11

B. 1. Check mark, Information is OK on Forms:

OGRID X BONDING FED PROP CODE X WELL # X SIGNATURE 6

2. Inactive Well list as of: 7/22/11 # wells 2594 # Inactive wells 6

a. District Grant APD but see number of inactive wells:

No letter required X; Sent Letter to Operator       , to Santa Fe       

3. Additional Bonding as of: 7/22/11

a. District Denial because operator needs addition bonding.

No Letter required X; Sent Letter to Operator       , To Santa Fe       

b. District Denial because of Inactive well list and Financial Assurance:

No Letter required X; Sent Letter to Operator       , To Santa Fe       

C. C102 YES       , NO       , Signature       

1. Pool LOCO HILLS; GLORETA - 2540 Code 96718

a. Dedicated acreage 40, What Units H

b. SUR. Location Standard       ; Non-Standard Location X

c. Well shares acres: Yes X No       , # of wells        plus this well #       

2. 2<sup>nd</sup>. Operator in same acreage, Yes       , No X

Agreement Letter       , Disagreement letter       

3. Intent to Directional Drill Yes       , No X

a. Dedicated acreage       , What Units       

b. Bottomhole Location Standard       , Non-Standard Bottomhole       

4. Downhole Commingle: Yes       , No X

a. Pool #2       , Code       , Acres       

Pool #3       , Code       , Acres       

Pool #4       , Code       , Acres       

5. POTASH Area Yes       , No X

D. Blowout Preventer Yes X, No       

E. H2S Yes X, No       

F. C144 Pit Registration Yes       , No       , need

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes X, No       , NSL #       

2. Non-Standard Proration: Yes       , No X, NSP #       

3. Simultaneous Dedication: Yes       , No X, SD #       

Number of wells        Plus #       

4. Injection order Yes       , No X; PMX #        or WFX #       

5. SWD order Yes       , NO X; SWD #       

6. DHC from SF       ; DHC-HOB       ; Holding       

7. OCD Approval Date        /        /       

8. Reviewers       

API #30-0 14-3922

NSL  
Condition of  
Approval